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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,461	11/20/2003	Francois Kubica	245494US41X DIV	6844
22850	7590	10/19/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER BEHNCKE, CHRISTINE M	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,461

Applicant(s)

KUBICA, FRANCOIS

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,6-13,16 and 26-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6-13, 16, and 26-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2005 and 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/863894.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the After-Final Amendment and Remarks filed 6 September 2005, in which claims 1, 3, 6-13, 16, and 26-30 were presented for examination.

2. Prosecution on the merits of this application is reopened on claims 1, 3, 6-13, 16, and 26-30 considered unpatentable for the reasons indicated below:

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 6-13, 16, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pages, US Patent No. 5,774,818, in view of Trikha, US Patent No. 6,003,811.

4. **(Claims 1, 13 and 27)** Pages discloses a method for operating an aircraft, comprising the steps of: receiving guidance instructions and guidance parameters at a navigation computer (computer 12, Column 5, lines 26-35); transmitting automatic pilot instructions from said navigation computer to a flight control computer (PA 13, Column 5, lines 43-46); receiving control instructions and said automatic pilot instructions at said flight control computer (Column 5, lines 43-46). Pages discloses computing a plurality of

operating commands at the flight control computer but does not explicitly disclose wherein a first plurality or a second plurality of operating commands are generated specifically in automatic or manual modes.

5. However, Trikha teaches in the prior art in an automatic pilot mode, generating a first plurality of operating commands based on the automatic instructions at said flight control computer; in manual mode, generating a second plurality of operating commands based on the control instructions at the flight control computer (Column 3, lines 17-25) and validating a single control function upon which said first and second pluralities of operating commands are based (Column 3, lines 17-25 and lines 42-47).

6. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of Pages with the teachings of Trikha to illustrate the principle components of a fly-by-wire aircraft control system wherein the flight control computer generates the operating commands based on the automatic pilot instructions of the manual instructions of the pilot. Trikha further teaches it would have been obvious to one of ordinary skill in the avionic and electronic art to validate the single control function to increase safety by comparing the control signal for errors (Column 3, lines 42-47).

7. **(Claim 27)** Further, by Applicant's admission in the Discussion of the Background, it is required to validate the disclosed prior art plural control functions (page 2, line 18), wherein the step of validation of said control functions is performed by the said flight control computer. It would have been obvious to one of ordinary skill in the avionic and electronic art to validate the developed single control function wherein

the step of validating is performed by the flight control computer for the same admitted concerns of validating the plural control functions.

8. **(Claims 6 and 16)** Pages discloses the method previously discussed but does not disclose a single control function embedded in said flight control computer, wherein the control function is the basis of a first and second pluralities of operating commands based on the control instructions at the flight control computer. However, Trikha discloses the single control function is embedded in said flight control computer (primary flight computer 26). It would have been obvious to one of ordinary skill in the avionic and electronic art at the time of the invention to combine the method disclosed by Pages in view of Trikha with the further teachings of Trikha to illustrate the principle components of a fly-by-wire aircraft primary flight control system which includes that the flight control computer generates the operating commands based on the automatic pilot instructions or the manual instructions of the pilot and wherein to generate the operating commands would require the function to be located within said flight control computer.

9. **(Claim 3)** Pages, in view of Trikha, discloses the method previously discussed, Pages further discloses the step of receiving control parameters at the flight control computer (figure 4, Column 5, lines 26-46)

10. **(Claim 7)** Pages further discloses wherein the step of generating the automatic pilot instructions at the navigation computer based on the guidance instructions and on guidance parameters (Column 5, lines 26-35).

11. **(Claim 8)** Pages in view of Trikha discloses the method previously discussed, both Pages and Trikha further teach wherein the automatic pilot instructions correspond

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in nature to the control instructions (Pages: Column 5, lines 12-17; Trikha: Column 3, lines 7-24).

12. **(Claims 9-11)** Pages in view of Trikha discloses the method previously discussed; Pages and Trikha teach the transmitted automatic/control instructions include desired change in the aircraft's flight path (Pages: Column 5, lines 43-46; Trikha: Column 3, lines 7-24). It is well known in the art that the parameters corresponding to a vertical load factor, roll rate, and yaw are specifically used to designate and change the flight path. These parameters are essential in order to correctly control the aircraft controlled surfaces and calculate the needed corrections to change the aircraft's flight path.

13. **(Claim 12)** Pages in view of Trikha discloses the method previously discussed, Pages further discloses wherein the step of transmitting the automatic pilot instructions from the navigation computer to the flight control computer is performed so that the flight control computer receives the automatic pilot instructions directly from the navigation computer without an intermediate step (figure 4).

14. **(Claim 26)** Pages further discloses wherein the step of receiving control parameters at said flight control computer comprises receiving said control parameters via an input different from both an input through which said control instructions are received and an input through which said automatic pilot instructions are received (figure 4, Column 5, lines 47-52).

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15. **(Claim 28)** Pages further discloses comprising the step of transmitting said first plurality of operating commands from said flight control computer to a plurality of control surfaces (Column 5, lines 47-52).

16. **(Claim 29)** Pages further discloses comprising the step of receiving inertial information at said navigation computer (Column 1, lines 39-52 and Column 5, lines 47-55).

17. **(Claim 30)** Pages further suggests wherein a delay between a time at which said inertial information is received at said navigation computer and a time at which said first plurality of operating commands is transmitted from said flight control computer to said plurality of control surfaces is minimized (figure 4, Column 1, lines 39-52 and Column 5, lines 47-55).

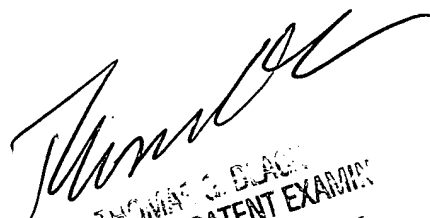
Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

10-14-2005


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